

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A process for depositing a nanomolecular layer of resin on a carbon fiber comprising:
  - a. providing an aqueous solution of an organic compound contained in a non-conducting container;
  - b. connecting a direct current source to said carbon fiber;
  - c. providing a graphite rod;
  - d. combining the fiber, the aqueous solution, and the graphite rod in the non-conducting container with an alkalylin specie;
  - e. Attaching one power lead of the direct current source to the graphite rod which acts as the cathode, and the other lead to the carbon fiber as the anode in the aqueous solution;
  - f. applying an electric potential from said direct current source to cause the ionized aqueous solution to flow to an anodic substrate creating a nanomolecular layer to form thereon; and
  - g. rinsing any excess chemicals from the substrate with a rinse.
2. The process as recited in claim 1 wherein said step of providing an aqueous solution further includes said aqueous solution being comprised from the group of polymers, polyamic acid, phenyl phosphinic acid, and or poly isobutylene alt maleic acid , dissolved in an aqueous medium.
3. The process as recited in claim 2 wherein said nanomolecular layer is characterized by a covalent bonding onto the carbon fiber.
4. An article having a nanomolecular resin layer bonded thereon formed by
  - a. providing an aqueous solution contained in a non-conducting container;
  - b. connecting a direct current source to said carbon fiber;
  - c. providing a graphite rod;
  - d. combining the fiber, the aqueous solution, and the graphite rod in the non-conducting container with an alkaylin specie;
  - e. Attaching one power lead of the direct current source to the graphite rod

- which acts as the cathode, and the other lead to the carbon fiber as the anode in the aqueous solution;
- f. applying an electric potential from said direct current source to cause the ionized aqueous solution to flow to an anodic substrate creating a nanomolecular layer to form.
5. A process for depositing a nanomolecular layer of resin on a carbon fiber comprising:
    - a. providing an aqueous solution of an inorganic compound contained in a non-conducting container;
    - b. connecting a direct current source to said carbon fiber;
    - c. providing a graphite rod;
    - d. combining the fiber, the aqueous solution, and the graphite rod in the non-conducting container with an alkyl species;
    - e. Attaching one power lead of the direct current source to the graphite rod which acts as the cathode, and the other lead to the carbon fiber as the anode to ionize the aqueous solution;
    - f. applying an electric potential from said direct current source to cause the ionized aqueous solution to flow to an anodic substrate creating a nanomolecular layer to form thereon; and rinsing any excess chemicals from the substrate with a rinse.
  6. The process as recited in claim 5 wherein said step of providing an inorganic aqueous solution further includes said aqueous solution being comprised from the group of phenyl boronic acid, and or polysiloxane polymer, dissolved in an aqueous medium.
  7. The process as recited in claim 6 wherein said nanomolecular layer is characterized by a covalent bonding onto the carbon fiber.
  8. An article having a nanomolecular resin layer bonded thereon formed by
    - a. providing an inorganic aqueous solution contained in a non-conducting container;
    - b. connecting a direct current source to said carbon fiber;

- c. providing a graphite rod;
- d. combining the fiber, the aqueous solution, and the graphite rod in the non-conducting container with an alkyl species;
- e. Attaching one power lead of the direct current source to the graphite rod which acts the cathode, and the other lead to the carbon fiber as the anode in the aqueous solution;
- f. applying an electric potential from said direct current source to cause the ionized aqueous solution to flow to an anodic substrate creating a nanomolecular layer to form.